1	1a	1b
	L	V
H_2O	L_{11}	V_{11}
HDO	L_{12}	V_{12}
HTO	L_{13}	V_{13}
D_2O	L_{22}	V_{22}
DTO	L_{23}	V_{23}
T_2O	L_{33}	V_{33}

2	2a
	G
H_2	G_{11}
HD	G_{12}
HT	G_{13}
D_2	G_{22}
DT	G_{23}
T_2	G_{33}

Fig. 1

$$L_{23} + G_{22} \Leftrightarrow G_{23} + L_{22} \qquad \text{(EM)}$$

$$L_{23} \Leftrightarrow V_{23} \qquad \text{(E1)}$$

$$V_{23} + G_{22} \Leftrightarrow G_{23} + V_{22} \qquad \text{(EK)}$$

$$V_{22} \Leftrightarrow L_{22} \quad \text{(E2)}$$

Fig. 2

Fig. 3

Fig. 4

L_{22}, L_{23} G_{22}, G_{23}, G_{33}

L G

$1 \rightarrow$

R

$L_{22} \rightarrow L_{23}$

$7 \rightarrow$

6

M
M
M
M
M
M

L G

L_{22} G_{22} G_{23}, G_{33}
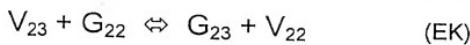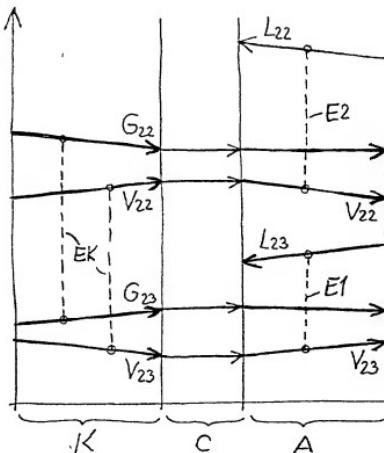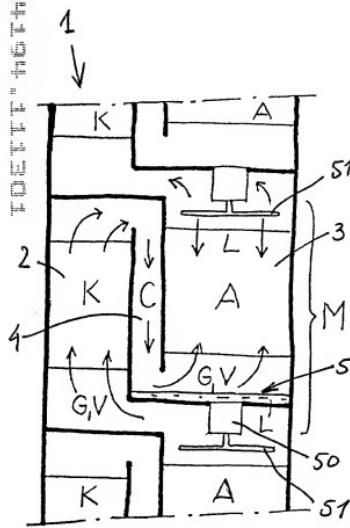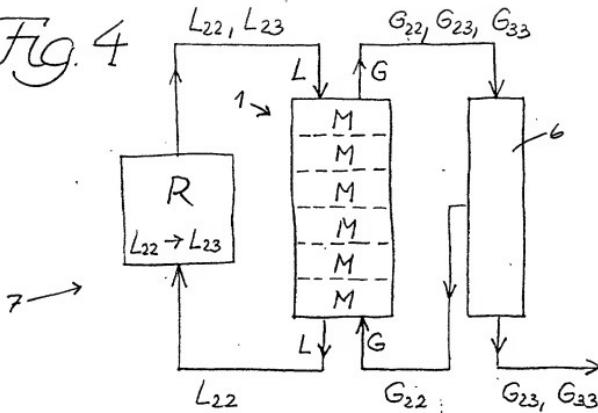
$$L_{11} \Leftrightarrow V_{11} \qquad\qquad\qquad \text{(E1')}$$

$$V_{11} + G_{12} \Leftrightarrow G_{11} + V_{12} \qquad \text{(EK')}$$
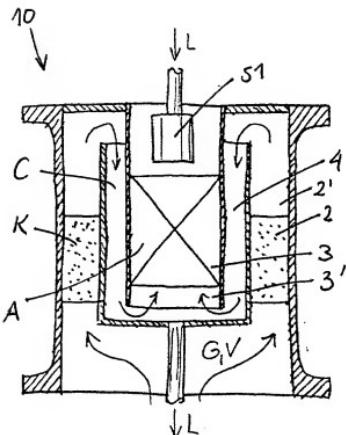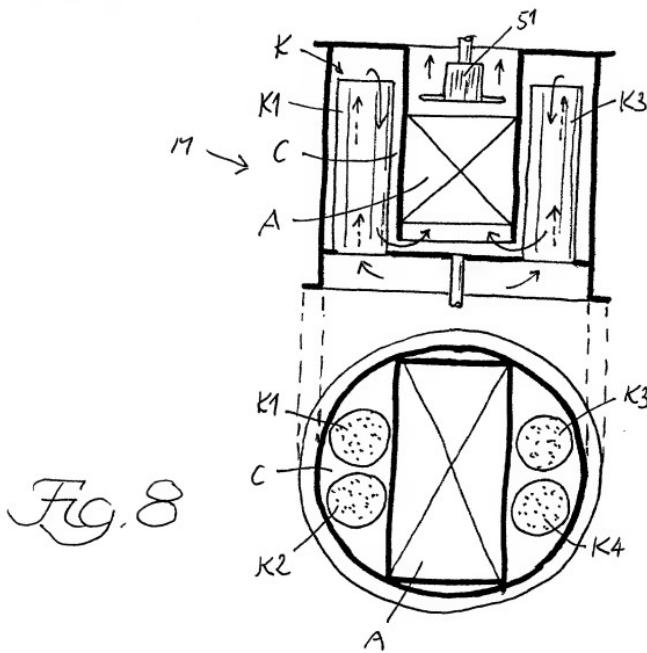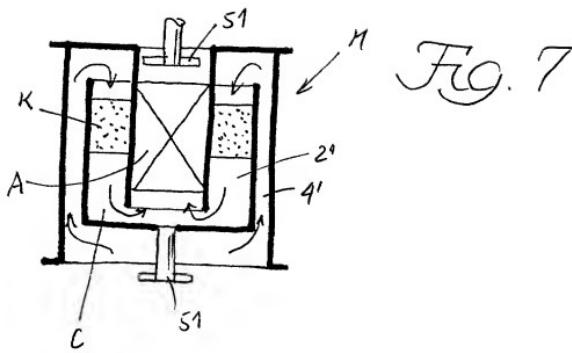
$$V_{12} \Leftrightarrow L_{12} \quad \text{(E2')}$$

Fig. 5

Fig. 6

10

L

$S1$

C

K

A

4

$2'$

2

3

$3'$

1

G, V

L

Fig. 7

Fig. 8